

09/518763**WEST**Search results  
for Paper # 4[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#) | [Search Form](#) | [Posting Counts](#) | [Show S Numbers](#) | [Edit S Numbers](#) | [Preferences](#)

Your wildcard search against 2000 terms has yielded the results below

Search for additional matches among the next 2000 terms

starting with: CELL\$(CELLOSOLVE-1.0).P27-P83,P22-P26,P19-P21,P1-P17,P18-P18.

**Search Results -**

Terms	Documents
l6 and stab\$ adj5 cell\$	6

US Patents Full-Text Database  
 JPO Abstracts Database  
 EPO Abstracts Database  
 Derwent World Patents Index  
 IBM Technical Disclosure Bulletins

Database: IBM Technical Disclosure Bulletins

16 and stab\$ adj5 cell\$

[Refine Search:](#)[Clear](#)**Search History**

Today's Date: 8/22/2000

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
USPT,JPAB,EPAB,DWPI,TDBD	l6 and stab\$ adj5 cell\$	6	<u>L8</u>
USPT,JPAB,EPAB,DWPI,TDBD	l6 and stab\$ adj5 cell\$ adj5 line\$	0	<u>L7</u>
USPT,JPAB,EPAB,DWPI,TDBD	apoptosis adj5 inhibit\$	530	<u>L6</u>
USPT,JPAB,EPAB,DWPI,TDBD	l2 and stab\$ adj5 transf\$	0	<u>L5</u>
USPT,JPAB,EPAB,DWPI,TDBD	l2 and stab\$ adj5 cell	1	<u>L4</u>
USPT,JPAB,EPAB,DWPI,TDBD	l2 and stab\$ adj5 cell adj5 line\$	0	<u>L3</u>
USPT,JPAB,EPAB,DWPI,TDBD	apoptosis adj5 suppress\$	103	<u>L2</u>
USPT,JPAB,EPAB,DWPI,TDBD	apoptosis	3504	<u>L1</u>

**WEST**

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Your wildcard search against 2000 terms has yielded the results below

Search for additional matches among the next 2000 terms

[Generate Collection](#)

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Search Results - Record(s) 1 through 6 of 6 returned.

1. Document ID: US 6093795 A

L8: Entry 1 of 6                  File: USPT                  Jul 25, 2000

US-PAT-NO: 6093795

DOCUMENT-IDENTIFIER: US 6093795 A

TITLE: Isolated human Prtl protein

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#)

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2. Document ID: US 6015710 A

L8: Entry 2 of 6                  File: USPT                  Jan 18, 2000

US-PAT-NO: 6015710

DOCUMENT-IDENTIFIER: US 6015710 A

TITLE: Modulation of mammalian telomerase by peptide nucleic acids

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#)

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3. Document ID: US 6010878 A

L8: Entry 3 of 6                  File: USPT                  Jan 4, 2000

US-PAT-NO: 6010878

DOCUMENT-IDENTIFIER: US 6010878 A

TITLE: Interleukin-1 .beta. converting enzyme like apoptotic protease-6

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#)

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4. Document ID: US 6008042 A

L8: Entry 4 of 6

File: USPT

Dec 28, 1999

US-PAT-NO: 6008042

DOCUMENT-IDENTIFIER: US 6008042 A

TITLE: Interleukin-1 beta converting enzyme like apoptotic protease-7

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#) 5. Document ID: US 6004579 A

L8: Entry 5 of 6

File: USPT

Dec 21, 1999

US-PAT-NO: 6004579

DOCUMENT-IDENTIFIER: US 6004579 A

TITLE: Compositions which inhibit apoptosis, methods of making the compositions and uses thereof

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#) 6. Document ID: AU 9889160 A, WO 9910509 A1

L8: Entry 6 of 6

File: DWPI

Mar 16, 1999

DERWENT-ACC-NO: 1999-190624

DERWENT-WEEK: 199930

COPYRIGHT 2000 DERWENT INFORMATION LTD

TITLE: Method for enhancing transcript RNA stability in cells - by contacting cells with a polynucleotide which inhibits transcript RNA degradation

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Clip Img](#) | [Image](#)[Generate Collection](#)[Terms](#)[Documents](#)

l6 and stab\$ adj5 cell\$

6

[Display](#)

100 Documents, starting with Document:

6

[Display Format:](#)

TI

[Change Format](#)

**ILIGHT set on as ''**

**HIGHLIGHT set on as ''**

? begin 5,6,55,154,155,156,312,399,biotech,biosci

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Set Items Description
--- -----
? s apoptosis and stabl? and cell?

Processing
Processing
Processing
Processed 10 of 36 files ...
Processing
Processed 20 of 36 files ...
Processing
Completed processing all files
    332468 APOPTOSIS
    1274359 STABL?
    14560731 CELL?
S1      7622 APOPTOSIS AND STABL? AND CELL?

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PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES
? s s1 and stably transf?

    7622 S1
    85 STABLY TRANSF?
S2      0 S1 AND STABLY TRANSF?
? s s1 and stably and transf?

Processing
Processed 10 of 36 files ...
Processing
Completed processing all files
    7622 S1
    82637 STABLY
    5584734 TRANSF?
S3      2376 S1 AND STABLY AND TRANSF?
? s s3 and p35

    2376 S3
    6089 P35
S4      65 S3 AND P35
? rd s4

...examined 50 records (50)
...completed examining records
    S5      20 RD S4 (unique items)
? d s5/3/1-20

Display 5/3/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2000 BIOSIS. All rts. reserv.

12376373 BIOSIS NO.: 200000129875
Part I. Bcl-2 and bcl-xL limit apoptosis upon infection with
alphavirus vectors.
AUTHOR: Mastrangelo Alison J; Hardwick J Marie; Bex Francoise; Betenbaugh
    Michael J(a)
AUTHOR ADDRESS: (a)Department of Chemical Engineering, The Johns Hopkins
    University, 3400 North Charles Street, Baltimore, MD, 21218**USA
2000
JOURNAL: Biotechnology and Bioengineering. 67 (5):p544-554 March 5, 2000
ISSN: 0006-3592
```

DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English  
SUMMARY LANGUAGE: English

- end of record -

?

Display 5/3/2 (Item 2 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.

11840045 BIOSIS NO.: 199900086154  
**Baculovirus p33 binds human p53 and enhances p53-mediated apoptosis.**  
AUTHOR: Prikhod'ko Grigori G; Wang Yan; Freulich Ella; Prives Carol; Miller Lois K(a)  
AUTHOR ADDRESS: (a)Dep. Entomol., 413 Biol. Sci., Univ. Georgia, Athens, GA 30602\*\*USA  
1999  
JOURNAL: Journal of Virology 73 (2):p1227-1234 Feb., 1999  
ISSN: 0022-538X  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

- end of record -

?

Display 5/3/3 (Item 3 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.

11674779 BIOSIS NO.: 199800456510  
**Apoptosis resulting from superinfection of Heliothis zea virus 1 is inhibited by p35 and is not required for virus interference.**  
AUTHOR: Lee Jin-Ching; Chao Yu-Chan(a)  
AUTHOR ADDRESS: (a)Inst. Molecular Biol., Academia Sinica, Nankang, Taipei 115\*\*Taiwan  
1998  
JOURNAL: Journal of General Virology 79 (9):p2293-2300 Sept., 1998  
ISSN: 0022-1317  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

- end of record -

? d s5/9/3

Display 5/9/3 (Item 3 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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11674779 BIOSIS NO.: 199800456510  
**Apoptosis resulting from superinfection of Heliothis zea virus 1 is inhibited by p35 and is not required for virus interference.**  
AUTHOR: Lee Jin-Ching; Chao Yu-Chan(a)  
AUTHOR ADDRESS: (a)Inst. Molecular Biol., Academia Sinica, Nankang, Taipei 115\*\*Taiwan  
1998  
JOURNAL: Journal of General Virology 79 (9):p2293-2300 Sept., 1998  
ISSN: 0022-1317  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Superinfection of Spodoptera frugiperda insect **cells** that

are persistently infected with *Heliothis zea* 1 (Hz-1) virus induces general cellular apoptosis and subsequently results

-more-

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Display 5/9/3 (Item 3 from file: 5)  
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homologous virus interference. Since apoptosis correlates closely with both a significant decrease in yield of virus progeny and expansion of virus infection among cells, further experiments were designed to verify the direct association of apoptosis with homologous. interference. It was found that superinfection-induced apoptosis can be efficiently blocked by the stable transfection of p35 into cells before or after the establishment of persistent virus infection. However, persistently infected cells are still strongly resistant to the challenge of Hz-1 virus, indicating that the induction of apoptosis is not essential for the resulting homologous Hz-1 virus interference. Replication and transcription of viral genomes are greatly retarded upon Hz-1 virus superinfection of persistently infected cells, whether stably transfected with p35 or not, suggesting that upon superinfection, the decreasing yield of virus progeny in these persistently infected cells is caused by a blockage early after virus infection.

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Display 5/9/3 (Item 3 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.  
DESCRIPTORS:  
MAJOR CONCEPTS: Infection; Physiology; Virology  
BIOSYSTEMATIC NAMES: Lepidoptera--Insecta, Arthropoda, Invertebrata, Animalia; Viruses--Microorganisms  
ORGANISMS: *Heliothis-zea* virus 1 (Viruses)--pathogen; *Spodoptera-frugiperda* (Lepidoptera)--host, insect cells, superinfection  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Arthropods; Insects; Invertebrates; Microorganisms; Viruses  
DISEASES: viral infection--viral disease  
CHEMICALS & BIOCHEMICALS: p35--transfection  
MISCELLANEOUS TERMS: apoptosis--superinfection-induced; homologous virus interference; viral challenge; viral genome--replication, transcription  
CONCEPT CODES:  
33502 Virology-General; Methods  
12002 Physiology, General and Miscellaneous-General

-more-

? d s5/3/4-20

Display 5/3/4 (Item 4 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.  
11472344 BIOSIS NO.: 199800253676  
The baculovirus anti-apoptotic p35 protein promotes transformation of mouse embryo fibroblasts.  
AUTHOR: Resnicoff Mariana(a); Valentinis Barbara; Herbert Debroski; Abraham David; Friesen Paul D; Alnemri Emad S; Baserga Renato  
AUTHOR ADDRESS: (a)Kimmel Cancer Inst., Bluemle Life Sci. Build., Room 606, 233 S. Tenth St., Philadelphia, PA 1910\*\*USA  
1998  
JOURNAL: Journal of Biological Chemistry 273 (17):p10376-10380 April 24,

1998

ISSN: 0021-9258

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

- end of record -

? d s5/9/4

Display 5/9/4 (Item 4 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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11472344 BIOSIS NO.: 199800253676

The baculovirus anti-apoptotic p35 protein promotes transformation of mouse embryo fibroblasts.

AUTHOR: Resnicoff Mariana(a); Valentinis Barbara; Herbert Debroski; Abraham David; Friesen Paul D; Alnemri Emad S; Baserga Renato

AUTHOR ADDRESS: (a)Kimmel Cancer Inst., Bluemle Life Sci. Build., Room 606, 233 S. Tenth St., Philadelphia, PA 1910\*\*USA

1998

JOURNAL: Journal of Biological Chemistry 273 (17):p10376-10380 April 24, 1998

ISSN: 0021-9258

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: The baculovirus p35 protein is a potent inhibitor of

-more-

?

Display 5/9/4 (Item 4 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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programmed cell death induced by a variety of stimuli in insects, nematodes, and mammalian cell lines. The broad ability of p35 in preventing apoptosis has led us to investigate its effect on mouse embryo fibroblasts in vitro and in vivo. For this purpose, we have used R- cells (3T3-like fibroblasts derived from mouse embryos with a targeted disruption of the insulin-like growth factor I receptor (IGF-IR) genes) and R508 cells (derived from R- and with 15 X 10<sup>3</sup> IGF-IRs per cell). Both cell lines grow normally in monolayer, but they do not form colonies in soft agar, and they are non-tumorigenic in nude mice. We show here that, in addition to its anti-apoptotic effect, p35 causes transformation of R508 cells, as evidenced by the following: 1) decreased growth factor requirements, 2) ability to form foci in monolayer and colonies in soft agar, and 3) ability to form tumors in nude mice. Since R- cells stably transfected with p35 do not transform, our observations suggest that in addition to its effect as an inhibitor of apoptosis, the baculovirus p35 protein has transforming

-more-

? d s5/9/5-20

Display 5/9/5 (Item 5 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.

10943884 BIOSIS NO.: 199799565029

Baculovirus inhibitor of apoptosis functions at or upstream of the apoptotic suppressor P35 to prevent programmed cell death.

AUTHOR: Manji Gulam A; Hozak Rebecca R; Lacount Douglas J; Friesen Paul D (a)

AUTHOR ADDRESS: (a) In Molecular Virol., Bock Lab., Univ.  
Wisconsin-Madison, 5 Linden Dr., Madison, WI 53703 \*\*USA  
1997

JOURNAL: Journal of Virology 71 (6):p4509-4516 1997

ISSN: 0022-538X

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Members of the inhibitor of apoptosis (iap) gene family prevent programmed cell death induced by multiple signals in diverse organisms, suggesting that they act at a conserved step in the

-more-

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Display 5/9/5 (Item 5 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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apoptotic pathway. To investigate the molecular mechanism of iap function, we expressed epitope-tagged Op-iap, the prototype viral iap from *Orgyia pseudotsugata* nuclear polyhedrosis virus, by using novel baculovirus recombinants and stably transfected insect cell lines. Epitope-tagged Op-iap blocked both virus- and UV radiation-induced apoptosis. With or without apoptotic stimuli, Op-IAP protein (31 kDa) cofractionated with cellular membranes and the cytosol, suggesting a cytoplasmic site of action. To identify the step(s) at which Op-iap blocks apoptosis, we monitored the effect of Op-iap expression on in vivo activation of the insect CED-3/ICE death proteases (caspases). Op-iap prevented in vivo caspase-mediated cleavage of the baculovirus substrate inhibitor P35 and blocked caspase activity upon viral infection or UV irradiation. However, unlike the stoichiometric inhibitor P35, Op-IAP failed to affect activated caspase as determined by in vitro protease assays. These findings provide the first biochemical evidence that Op-iap blocks activation of the host caspase or inhibits its activity by a mechanism distinct from P35.

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DIALOG(R)File 5:Biosis Previews(R)

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Moreover, as suggested by the capacity of Op-iap to block apoptosis induced by diverse signals, including virus infection and UV radiation, iap functions at a central point at or upstream from steps involving the death proteases.

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology ; Genetics; Infection; Microbiology; Pathology; Radiation Biology

BIOSYSTEMATIC NAMES: Baculoviridae--Viruses; Lepidoptera--Insecta, Arthropoda, Invertebrata, Animalia

ORGANISMS: baculovirus (Baculoviridae); Lepidoptera (Lepidoptera); *Orgyia pseudotsugata* nuclear polyhedrosis virus (Baculoviridae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; arthropods; insects; invertebrates; microorganisms; viruses

MISCELLANEOUS TERMS: Research Article; APOPTOTIC SUPPRESSOR; IAP GENES; INHIBITOR OF APOPTOSIS GENES; IPL-SF21 CELL LINE; MOLECULAR GENETICS; PREVENTION; PROGRAMMED CELL DEATH; P35; UV

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RADIATION; VIRAL DISEASE; VIRUS INFECTION  
CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal  
06506 Radiation-Radiation Effects and Protective Measures  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
12510 Pathology, General and Miscellaneous-Necrosis (1971- )  
31500 Genetics of Bacteria and Viruses  
33506 Virology-Animal Host Viruses  
36006 Medical and Clinical Microbiology-Virology  
32600 In Vitro Studies, Cellular and Subcellular  
BIOSYSTEMATIC CODES:

02603 Baculoviridae (1993- )  
75330 Lepidoptera

- end of record -

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Display 5/9/6 (Item 6 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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09603198 BIOSIS NO.: 199598058116  
Suppression of apoptosis in insect cells stably  
transfected with baculovirus p35: Dominant interference by  
N-terminal sequences p35-1-76.  
AUTHOR: Cartier Jennifer L; Hershberger Pamela A; Friesen Paul D  
AUTHOR ADDRESS: Inst. Mol. Virol., Bock Lab., Univ. Wis.-Madison, 1525  
Linden Dr., Madison, WI 53706-1596\*\*USA  
1994  
JOURNAL: Journal of Virology 68 (12):p7728-7737 1994  
ISSN: 0022-538X  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Expression of p35 from the DNA genome of *Autographa californica* nuclear polyhedrosis virus (AcMNPV) suppresses virus-induced

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Display 5/9/6 (Item 6 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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apoptosis and promotes virus replication in *Spodoptera frugiperda* (SF21) cells. To examine the molecular mechanism by which p35 prevents apoptosis in insects, SF21 cells were stably transfected with p35. Neomycin-resistant cell lines that synthesized protein P35 were identified. Stable transfection with p35 protected SF21 cells from apoptosis induced by actinomycin D concentrations that caused apoptotic death of untransfected cells. Cellular expression of p35 also blocked apoptosis induced by infection with p35 null mutants and restored mutant replication to levels comparable to those of wild-type virus. In contrast, stable expression of the mammalian death suppressor bcl-2 failed to block actinomycin D- or AcMNPV-induced apoptosis. Thus, p35 was sufficient to prevent apoptosis, whereas bcl-2 was not, suggesting that the activities of the two nonhomologous death regulators are functionally distinct. Stable expression of the truncation mutant p35-1-76 containing the N terminus of p35, failed to block

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Display 5/9/6 (Item 6 from file: 5)  
DIALOG(R) File 5:Bio Previews(R)  
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apoptosis. However, p35-1-76 interfered with p35 antiapoptotic activity, since stably transfected cells underwent apoptosis upon infection with wild-type AcMNPV. Despite normal levels of viral p35 transcription, P35 levels were selectively reduced during infection. Thus, p35-1-76 acted as a dominant inhibitor by directly or indirectly affecting the synthesis or stability of viral P35. These results suggested that the N terminus of P35 constitutes a functional domain which is required to interact with other proteins, possibly host invertebrate death regulators or P35 itself.

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology ; Microbiology; Pathology; Physiology

BIOSYSTEMATIC NAMES: Baculoviridae--Viruses; Lepidoptera--Insecta, Arthropoda, Invertebrata, Animalia

ORGANISMS: Autographa californica nuclear polyhedrosis virus

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Display 5/9/6 (Item 6 from file: 5)  
DIALOG(R) File 5:Biosis Previews(R)  
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(Baculoviridae); Spodoptera frugiperda (Lepidoptera)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; arthropods; insects; invertebrates; microorganisms; viruses

CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10506 Biophysics-Molecular Properties and Macromolecules  
12510 Pathology, General and Miscellaneous-Necrosis (1971- )  
33506 Virology-Animal Host Viruses  
64076 Invertebrata, Comparative and Experimental Morphology, Physiology and Pathology-Insecta-Physiology  
03506 Genetics and Cytogenetics-Animal  
31500 Genetics of Bacteria and Viruses

BIOSYSTEMATIC CODES:

02603 Baculoviridae (1993- )  
75330 Lepidoptera

- end of record -

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Display 5/9/7 (Item 7 from file: 5)  
DIALOG(R) File 5:Biosis Previews(R)  
(c) 2000 BIOSIS. All rts. reserv.

09040561 BIOSIS NO.: 199497048931

Expression of the baculovirus p35 gene inhibits mammalian neural cell death.

AUTHOR: Rabizadeh S; Lacount D J; Friesen P D; Bredesen D E(a)

AUTHOR ADDRESS: (a)Dep. Neurology, UCLA Sch. Med., 710 Westwood Plaza, Los Angeles, CA 90024-1769\*\*USA

1993

JOURNAL: Journal of Neurochemistry 61 (6):p2318-2321 1993

ISSN: 0022-3042

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Expression of the apoptosis suppressor gene p35, derived from the baculovirus Autographa californica nuclear polyhedrosis

virus, markedly inhibited the cell death of stably

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Display 5/9/7 (Item 7 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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transfected mammalian neural cells whether the cell  
death was induced by glucose withdrawal, calcium ionophore, or serum  
withdrawal. The p35 protein, which is required to block  
virus-induced apoptosis of cultured insect cells, is only the  
second gene product shown to block mammalian neural cell death,  
with Bcl-2 being the first. Because there is no apparent homology between  
p35 and Bcl-2, the existence of a cellular death program that  
may be modulated at multiple points is suggested. Furthermore, these  
findings demonstrate that the putative cellular death program is  
conserved across species and cell types.

DESCRIPTORS:

MAJOR CONCEPTS: Cell Biology; Genetics; Microbiology; Nervous  
System (Neural Coordination); Pathology

BIOSYSTEMATIC NAMES: Baculoviridae--Viruses; Muridae--Rodentia, Mammalia,  
Vertebrata, Chordata, Animalia

ORGANISMS: rat (Muridae); Autographa californica nuclear polyhedrosis

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Display 5/9/7 (Item 7 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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virus (Baculoviridae)  
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; mammals;  
microorganisms; nonhuman mammals; nonhuman vertebrates; rodents;  
vertebrates; viruses  
MISCELLANEOUS TERMS: APOPTOSIS

CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal  
12510 Pathology, General and Miscellaneous-Necrosis (1971- )  
20504 Nervous System-Physiology and Biochemistry  
31500 Genetics of Bacteria and Viruses  
33506 Virology-Animal Host Viruses

BIOSYSTEMATIC CODES:

02603 Baculoviridae (1993- )  
86375 Muridae

- end of record -

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Display 5/9/8 (Item 1 from file: 154)  
DIALOG(R)File 154:MEDLINE(R)  
(c) format only 2000 Dialog Corporation. All rts. reserv.

10316861 20115142

Part I. Bcl-2 and Bcl-x(L) limit apoptosis upon infection with  
alphavirus vectors.

Mastrangelo AJ; Hardwick JM; Bex F; Betenbaugh MJ  
Department of Chemical Engineering, The Johns Hopkins University, 3400  
North Charles Street, Baltimore, Maryland 21218, USA.

Biotechnology and bioengineering (UNITED STATES) Mar 5 2000, 67 (5)  
p544-54, ISSN 0006-3592 Journal Code: A6N

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 0005

Subfile: INDEX MEDICUS

Viral expression systems offer the ability to generate high levels of a particular protein within a relatively short period of time. In particular, alphavirus constructs based on Sindbis virus (SV) and Semliki Forest virus (SFV) are promising vehicles as they are cytoplasmic vectors with the

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Display 5/9/8 (Item 1 from file: 154)  
DIALOG(R)File 154:MEDLINE(R)  
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potential for high expression levels. Two such alphavirus vectors were utilized during the current study to infect two commercially relevant cell lines, baby hamster kidney (BHK) and Chinese hamster ovary (CHO); the first was a fully competent SV derivative carrying the gene for chloramphenicol acetyltransferase (dsSV-CAT), while the second was a replication deficient SFV construct containing the human interleukin-12 (IL-12) p35 and p40 genes (SFV-IL-12). Since infection with these vectors induced apoptosis in both cell lines, the present effort was dedicated to determining the ability of anti-apoptosis genes to limit the cell death associated with these virus constructs. Infection with the dsSV-CAT vector resulted in the rapid death of BHK and CHO cells within 4 days, a phenomenon which was considerably delayed by stably overexpressing bcl-2 or bcl-x(L). In fact, cellular lifespans were doubled in both BHK-bcl2 and CHO-bclx(L) cells relative to the parental cell lines. Furthermore, the presence of these gene products provided increases of up to 2-fold in recombinant CAT production. Overexpression of bcl-2 and

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Display 5/9/8 (Item 1 from file: 154)  
DIALOG(R)File 154:MEDLINE(R)  
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bcl-x(L) also altered the response of these cells upon infection with SFV-IL-12. While the parental cell lines were completely nonviable within 1 week, the BHK-bcl2, BHK-bclx(L), and CHO-bclx(L) cells each recovered from the infection, resuming exponential growth and regaining viabilities of over 90% by 9 days post-infection. Total IL-12 productivities were nearly doubled by Bcl-2 and Bcl-x(L) in the CHO cells, although this effect was apparently cell-line specific, as the native BHK cells were able to secrete more IL-12 than either of its transfected derivatives. Regardless, the presence of the anti-apoptosis genes allowed the production of IL-12 to be maintained, albeit at low levels, from each of the cell lines for the duration of the culture process. Therefore, overexpression of bcl-2 family members can have a significant impact on culture viabilities and recombinant protein production during alphavirus infections of mammalian cells. Copyright 2000 John Wiley & Sons, Inc.

Tags: Animal; Human; Support, U.S. Gov't, Non-P.H.S.

Descriptors: Apoptosis--Genetics--GE; \*Gene Transfer; \*Genes,

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Display 5/9/8 (Item 1 from file: 154)  
DIALOG(R)File 154:MEDLINE(R)  
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bcl-2; \*Genetic Vectors; \*Proto-Oncogene Proteins c-bcl-2--Genetics--GE;  
Alphavirus; CHO Cells; Gene Expression Regulation; Hamsters  
CAS Registry No.: 0 (bcl-x protein); 0 (Genetic Vectors); 0  
(Proto-Oncogene Proteins c-bcl-2)

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Display 5/9/9 (Item 1 from file: 34)  
DIALOG(R) File 34:SciSearch(R) Cited Ref Sci  
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06023567 Genuine Article#: XQ112 Number of References: 25  
Title: **Stable transformation** of insect **cells** to coexpress  
a rapidly selectable marker gene and an inhibitor of **apoptosis**  
Author(s): McLachlin JR; Miller LK (REPRINT)  
Corporate Source: UNIV GEORGIA,DEPT ENTOMOL, 413 BIOL SCI  
BLDG/ATHENS//GA/30602 (REPRINT); UNIV GEORGIA,DEPT  
ENTOMOL/ATHENS//GA/30602; UNIV GEORGIA,DEPT GENET/ATHENS//GA/30602  
Journal: IN VITRO CELLULAR & DEVELOPMENTAL BIOLOGY-ANIMAL, 1997, V33, N7 (JUL-AUG), P575-579  
ISSN: 1071-2690 Publication date: 19970700  
Publisher: SOC IN VITRO BIOLOGY, 9315 LARGO DR WEST, STE 25, LARGO, MD 20774  
Language: English Document Type: ARTICLE  
Geographic Location: USA  
Subfile: CC LIFE--Current Contents, Life Sciences  
Journal Subject Category: DEVELOPMENTAL BIOLOGY; CELL BIOLOGY

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Display 5/9/9 (Item 1 from file: 34)  
DIALOG(R) File 34:SciSearch(R) Cited Ref Sci  
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Abstract: We have constructed several plasmid expression vectors to express foreign genes in **stably transformed** insect **cells**. Unlike baculovirus-based expression vectors by which genes of interest are expressed transiently before lysis of virus virus-infected **cells**, genes can be expressed continuously over many passages in a **stable** cell line. Furthermore, the function of a gene or genes expressed in a **stable** cell line from an insect-specific promoter that is constitutively expressed can be studied in the absence of virus infection and viral gene expression. In this study, we have expressed a novel, selectable marker gene, puromycin acetyltransferase, under the control of the Drosophila melanogaster hsp70 promoter or under the control of the AcMNPV ie-1 promoter which is active in Spodoptera frugiperda **cells** in the absence of virus infection. In addition, we have constructed expression vectors which coexpress two genes from separate promoters, the pac gene which confers resistance to puromycin and a baculovirus gene which inhibits **apoptosis**, derived from Orygia pseudotsugata nuclear

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polyhedrosis virus. Both genes were expressed in **stable** populations of S. frugiperda **cells** in the absence of continuous drug selection.  
Descriptors--Author Keywords: Spodoptera frugiperda **cells** ; puromycin acetyltransferase ; Drosophila hsp70 promoter ; dominant selectable marker ; **apoptosis**  
Identifiers--KeyWord Plus(R): MAMMALIAN-CELLS; PUROMYCIN-RESISTANCE; BACULOVIRUS GENES; ENCODING GENE; EXPRESSION; PROMOTER; LINES; P35; ACETYLTRANSFERASE; SUPPRESSION  
Research Fronts: 95-2868 002 (BACULOVIRUS-INFECTED INSECT CELLS; AUTOGRAPHHA-CALIFORNICA NUCLEAR POLYHEDROSIS-VIRUS; EXPRESSION OF THE HUMAN INTERLEUKIN-2 RECEPTOR-GAMMA CHAIN)  
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DIALOG(R) File 71:ELSEVIER BIOBASE  
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00172752 95003777  
Suppression of apoptosis in insect cells stably  
transfected with baculovirus p35: Dominant interference by  
N-terminal sequences p35<sup>sup 1</sup><sub>sup 1</sub> -<sup>sup 7</sup><sub>sup 6</sub>  
Cartier J.L.; Hershberger P.A.; Friesen P.D.  
ADDRESS: P.D. Friesen, Institute for Molecular Virology, Bock Laboratories,  
University of Wisconsin, 1525 Linden Dr., Madison, WI 53706-1596,  
United States  
Journal: Journal of Virology, 68/12 (7728-7737), 1994, United States  
PUBLICATION DATE: 19940000  
CODEN: JOVIA  
ISSN: 0022-538X  
DOCUMENT TYPE: Article  
LANGUAGES: English SUMMARY LANGUAGES: English

Expression of p35 from the DNA genome of *Autographa californica*

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nuclear polyhedrosis virus (AcMNPV) suppresses virus-induced apoptosis and promotes virus replication in *Spodoptera frugiperda* (SF21) cells. To examine the molecular mechanism by which p35 prevents apoptosis in insects, SF21 cells were stably transfected with p35. Neomycin-resistant cell lines that synthesized protein P35 were identified. Stable transfection with p35 protected SF21 cells from apoptosis induced by actinomycin D concentrations that caused apoptotic death of untransfected cells. Cellular expression of p35 also blocked apoptosis induced by infection with p35 null mutants and restored mutant replication to levels comparable to those of wild-type virus. In contrast, stable expression of the mammalian death suppressor bcl-2 failed to block actinomycin D- or AcMNPV-induced apoptosis. Thus, p35 was sufficient to prevent apoptosis, whereas bcl-2 was not, suggesting that the activities of the two nonhomologous death regulators are functionally distinct. Stable expression of the truncation mutant p35<sup>sup 1sup -sup 7sup 6</sup>, containing the

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N terminus of p35, failed to block apoptosis. However, p35<sup>sup 1sup -sup 7sup 6</sup> interfered with p35 antiapoptotic activity, since stably transfected cells underwent apoptosis upon infection with wild-type AcMNPV. Despite normal levels of viral p35 transcription, P35 levels were selectively reduced during infection. Thus, p35<sup>sup 1sup -sup 7sup 6</sup> acted as a dominant inhibitor by directly or indirectly affecting the synthesis or stability of viral P35. These results suggested that the N terminus of P35 constitutes a functional domain which is required to interact with other proteins, possibly host invertebrate death regulators or P35 itself.

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